Remarks/Arguments

Reconsideration of this application is requested.

Request for Continued Examination

A request for continued examination (RCE) is enclosed in response to the final Office Action mailed on February 29, 2008.

Claim Status

Clams 1 and 3-11 were presented. Claim 1 is amended. New claims 12-14 are added. Claims 1 and 3-14 are now pending.

Claim Rejections – Vogel

Claims 1, 3, 6 and 8-11 are rejected under 35 USC 103(a) as obvious over Vogel (US 6,804,262). In response, applicant traverses the rejections, and amends independent claim 1 to clearly distinguish over Vogel.

The present invention is directed to a channel scanning and acquisition method for cable modem applications. A fast scan of a channel is performed by considering a first operating state of a first component of the cable modem without power measurement of the channel. If a channel is not acquired during the fast scan, then a slow scan is performed that considers a plurality of operating states of a plurality of components of the cable modem without measuring the channel power. For example, the lock state of the automatic gain controller (AGC) is first checked in the fast scan while the slow scan checks the lock states of the AGC, demodulator, and PLL. The slow scan step allows a more thorough determination of a valid channel and does so indirectly without measuring the power of the desired channel (FIG. 2). Thus, by quickly checking the lock states of the components, a faster, simpler and more robust channel acquisition method is provided by the present invention (paragraph 0012). Vogel does not disclose or suggest these novel features of the present invention.

Vogel is directed to first identifying channel plans based on channel power measurements and then classifying the channels of the selected channel plan based on channel power measurements. As disclosed in column 15, lines 6-37, the power levels of a channel are measured by power measurement system 118 to classify each channel as analog, digital, or inactive. Measuring the channel power using a plurality of cable modem 22 components is not disclosed. In this manner, Vogel merely teaches that the time to scan through channels is decreased by taking channel power measurements (col. 16, lines 28-56). Therefore, the determination a valid channel or channel plan is based exclusively on the measured channel power from the power measurement system, and not of multiple systems.

The present invention, by contrast, performs a slow scan step to determine a valid channel by considering the operating state of a plurality of components without any channel power measurements. Indirectly checking the power instead of directly measuring the channel power allows the present invention to reduce the number of components in the cable modem and allows a very quick check (around 10 ms in the fast scan) to determine if further scanning is warranted for channel acquisition (paragraph 0021). When a slow scan is performed, more time is taken than the fast scan to more thoroughly determine the presence of valid channels.

Since Vogel does not disclose or suggest each and every element of claim 1, it cannot render obvious claim 1 or claims 3, 6 and 8-11 dependent thereon. The rejections under 35 USC 103 should be withdrawn.

Claim Rejections – Furuta

Claims 4, 5 and 7 are rejected as obvious over Vogel in view of Furuta (US 2002/0073433). Furuta is directed to frequency cache 111 of a cable modem 101 and does not remedy the deficiencies of Vogel discussed with respect to claim 1. Since Vogel and Furuta do not disclose or suggest each and every element of claims 4, 5 and 7, those claims are not obvious over Vogel and Furuta. The rejections under 35 USC 103(a) should be withdrawn.

New Claims

New claims 12-14 are added to better define the invention. Claim 12 is dependent on claim 1 and recites that the slow scan scans at a slower speed than the fast scan to acquire the channel than the fast scan. Claim 13 is dependent on claim 1 and recites that the plurality of operating states of the corresponding components includes a lock state of a demodulator and a PLL lock of a PLL. Claim 14 is dependent on claim 1 and recites that the slow scan mode scans the plurality of operating states even when the first operating state does not indicate the presence of a valid channel.

Conclusion

This application is now believed to be in condition for allowance. The Examiner is invited to telephone the undersigned to resolve any issues that remain after entry of this amendment. Any fees due with this response may be charged to our Deposit Account No. 50-1314.

Respectfully submitted,
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